

Maryland Historical Trust

Maryland Inventory of Historic Properties number: HG-649.

Name: 13032/US 40 OVER LITTLE PATUXENT RIVER.

The bridge referenced herein was inventoried by the Maryland State Highway Administration as part of the Historic Bridge Inventory, and SHA provided the Trust with eligibility determinations in February 2001. The Trust accepted the Historic Bridge Inventory on April 3, 2001. The bridge received the following determination of eligibility.

MARYLAND HISTORICAL TRUST	
Eligibility Recommended <u>X</u>	Eligibility Not Recommended _____
Criteria: <u> </u> A <u> </u> B <u> </u> C <u> </u> D Considerations: <u> </u> A <u> </u> B <u> </u> C <u> </u> D <u> </u> E <u> </u> F <u> </u> G <u> </u> None	
Comments: _____ _____ _____	
Reviewer, OPS: <u>Anne E. Bruder</u>	Date: <u>3 April 2001</u>
Reviewer, NR Program: <u>Peter E. Kurtze</u>	Date: <u>3 April 2001</u>

MARYLAND INVENTORY OF HISTORIC BRIDGES
HISTORIC BRIDGE INVENTORY
MARYLAND STATE HIGHWAY ADMINISTRATION/
MARYLAND HISTORICAL TRUST

MHT No. HO-649

SHA Bridge No. 13032 Bridge name US 40 over Little Patuxent River

LOCATION:

Street/Road name and number [facility carried] US 40

City/town Ellicott City Vicinity X

County Howard

This bridge projects over: Road Railway Water X Land

Ownership: State X County Municipal Other

HISTORIC STATUS:

Is bridge located within a designated historic district? Yes No X

National Register-listed district National Register-determined-eligible district

Locally-designated district Other

Name of district

BRIDGE TYPE:

Timber Bridge :
Beam Bridge Truss -Covered Trestle Timber-And-Concrete

Stone Arch Bridge

Metal Truss Bridge

Movable Bridge :
Swing Bascule Single Leaf Bascule Multiple Leaf
Vertical Lift Retractable Pontoon

Metal Girder :
Rolled Girder Rolled Girder Concrete Encased
Plate Girder Plate Girder Concrete Encased

Metal Suspension

Metal Arch

Metal Cantilever

Concrete X:
Concrete Arch Concrete Slab Concrete Beam Rigid Frame X

Other Type Name

DESCRIPTION:**Describe Setting:**

Bridge 13032 carries four lanes of traffic, two eastbound and two westbound, on U.S. Route 40 near Ellicott City in Howard County. Little Patuxent River runs in a northwest-southeast direction at this location. The bridge is located in a semi-wooded area with several housing developments nearby. The structure's skew angle is approximately 33°.

Describe Superstructure and Substructure:

This bridge is a single span reinforced concrete rigid frame which spans 41'-6½", with a total length of 108'-2". The original deck is a 1'-3" concrete slab poured integrally with both concrete abutments which bear on spread footings. The distance between faces of curbs is, according to plans dated May, 1985, is 92'-1-¼". The 1938 plans showed a clear roadway width of 88 feet.

Discuss Major Alterations:

This bridge was built in 1939. In 1985, the existing balustrade and sidewalks were removed and replaced with Jersey type parapets in each side, to which W-beam guardrails were connected for safety.

HISTORY:

WHEN was bridge built (actual date or date range) 1939

This date is: Actual X Estimated _____

Source of date: Plaque _____ Design plans X County bridge files/inspection form _____

Other (specify) _____

WHY was bridge built? To provide a reliable crossing of US 40 over the Little Patuxent River, to meet local and regional transportation needs.

WHO was the designer State Roads Commission

WHO was the builder _____

WHY was bridge altered? [check N/A _____ if not applicable] Safety concerns

Was bridge built as part of organized bridge-building campaign? Yes X No _____

This bridge was built by the State Roads Commission as part of the Good Roads Movement and as part of the construction of a new Route 40. The 1938 plans do not indicate that it replaced any earlier structure at this crossing.

SURVEYOR/HISTORIAN ANALYSIS:

This bridge may have National Register significance for its association with:

A - Events _____ B- Person _____
C- Engineering/architectural character X

Was bridge constructed in response to significant events in Maryland or local history? No ☐ Yes ☒
If yes, what event?

This bridge was one of a small number of concrete rigid frame bridges erected in Maryland in the 1930s and 1940s. Its monolithic frame reflects advances in reinforced concrete structural engineering in the early twentieth century. These bridges were built throughout the state, primarily by the State Roads Commission and the city of Baltimore, as part of the Good Roads Movement. This bridge, along with bridges 21013 (1941), 21015 (1936), and 21016 (1936) in Washington County, was erected as part of the construction of U.S. 40 by the State Roads Commission in the 1930s, one of Maryland's early major highway projects.

When the bridge was built and/or given a major alteration, did it have a significant impact on the growth & development of the area? No ☐ Yes ☒

U.S. 40, an early major highway project in the state, had a significant impact on residential, agricultural, commercial, and industrial growth in Maryland along its path from Aberdeen through Baltimore and west to Frederick.

Is the bridge located in an area which may be eligible for historic designation? No ☒ Yes ☐
Would the bridge add to ☐ or detract from ☐ historic & visual character of the possible district?

Is the bridge a significant example of its type? No ☐ Yes ☒

Concrete bridges are the largest component of Maryland's historic bridges. Their numbers reflect how quickly they became popular after their introduction to the state and the country at the opening of the twentieth century. Many in Maryland are purely functional structures, but their plastic nature made them amenable to graceful curves and ornamental parapets that reflected the influence of the City Beautiful movement during the first part of the twentieth century. The versatility and strength of reinforced concrete bridges, along with their plasticity, made them the preferred choice for bridges by state and county highway departments in Maryland and throughout the country in the 1910s. The standard plans of the State Roads Commission of the teens, twenties, and thirties made their use almost universal during that period.

While concrete bridges as a whole are very common in Maryland, reinforced concrete rigid frame bridges make up one of the smallest groups of historic bridge types in the state. There are probably only about a dozen such structures standing in the state under county or state control that were erected prior to 1945. The rigid frame bridge, unlike other reinforced concrete spans, is monolithic. It is characterized by a superstructure and substructure, including abutments, designed as a continuous unit. (Concrete balustrades, cast afterwards, are not part of the monolithic design.) The rigid frame was an important engineering advance for reinforced concrete bridges. It was developed by German engineers and Brazilian Emilio Baumgart around 1920, and introduced to the United States primarily through the efforts of New York engineer Arthur G. Hayden in 1922-1923.

Concrete rigid frame bridges became increasingly popular in the 1930s and 1940s. It was during this period that Maryland's few examples of the type were erected. These include bridges 1030 (1937, 1992) in Allegany County; BC-1406 (1938) and BC-3402 (1940) in Baltimore City; 5013 (1936) in Caroline County (1936); 6031 (1934) in Carroll County; 10058 (1941) in Frederick County; 11018 (1937) in Garrett County; 13032 (1939) in Howard County; 21013 (1941), 21015 (1936), and 21016 (1936) in Washington County; and WO-801 (c.1930) in Worcester County. These bridges generally have one or two spans of between 30 and 60 feet; the longest, BC-1406, measures 68 feet. With the exception of WO-801, the history of which remains clouded, they were built by the state or the city of Baltimore.

This bridge falls within the 1910-1940 period of significance for concrete bridges, during which reinforced concrete bridge construction was increasingly standardized in the state and particular subtypes, including the rigid frame, were introduced to the state road network.

Does bridge retain integrity [in terms of National Register] of important elements described in Context Addendum? No X Yes _____

The replacement of its original parapets with Jersey style parapet walls has probably destroyed this bridge's integrity.

Is bridge a significant example of work of manufacturer, designer and/or engineer? No X Yes _____

Should bridge be given further study before significance analysis is made? No X Yes _____

It is believed that the replacement of the bridge's parapets has destroyed its integrity and it therefore is not eligible for listing in the National Register.

BIBLIOGRAPHY:

Bridge inspection reports and files of the Maryland State Highway Administration.

Condit, Carl. *American Building*. Chicago: University of Chicago Press, 1968.

County survey files of the Maryland Historical Trust.

P.A.C. Spero & Company and Louis Berger & Associates, Inc. *Historic Bridges in Maryland: Historic Context Report*. Prepared for the Maryland State Highway Administration, September, 1994.

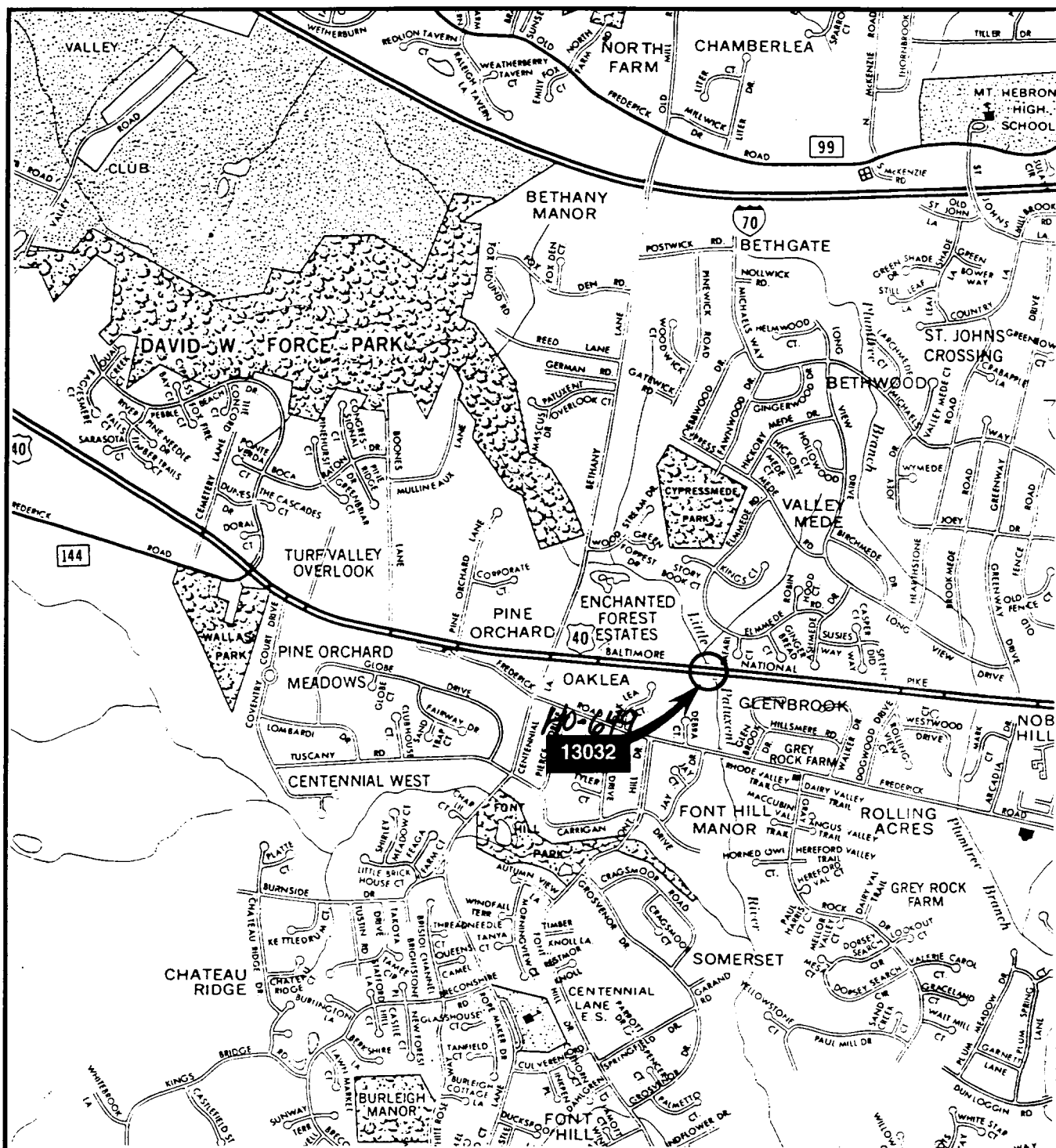
SURVEYOR/SURVEY INFORMATION:

Date bridge recorded 2/13/95

Name of surveyor David Diehl/Marvin Brown

Organization/Address GREINER, INC., 2219 York Road, Suite 200, Timonium, Maryland 21093-3111

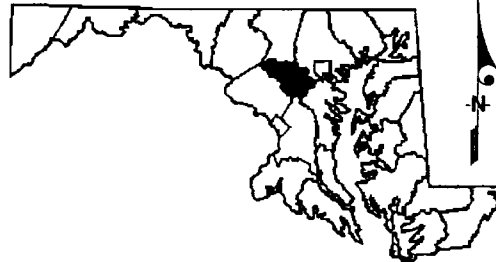
Phone number 410-561-0100 FAX number 410-561-1150



Howard County - Bridge Number 13032

US 40 over Little Patuxent River, 1939

Scale 0 1000 2000 feet
0 0.5 kilometer





Inventory # Ho -649

Name 13032-US#0 OVER LITTLE PATUXENT RIVER

County/State HOWARD | MD

Name of Photographer DAVID DIEHL

Date 2/95

Location of Negative SHA

Description EAST APPROACH

Number ¹18 of ⁴36



Inventory # H0-649

Name 13032-US RT 40 OVER ^{LITTLE} PATUXENT RIVER

County/State HOWARD / MD

Name of Photographer DAVID DIEHL

Date 2/95

Location of Negative SHA

Description WEST APPROACH

Number 2 of 4

11-2-95 15:00 0270



Inventory # HO-649

Name BD32-US RT 40 OVER LITTLE PATUXENT RIVER

County/State HOWARD / MD

Name of Photographer DAVID DIEHL

Date 2/95

Location of Negative SHA

Description SOUTH ELEVATION

Number 3 of 4
~~20~~ ~~20~~

• 1111 • 110280 1319



Inventory # HO-649

Name 13032-USRT 40 OVER LITTLE PATUXENT RIVER

County/State HOWARD / MD

Name of Photographer DAVID DIEHL

Date 2/95

Location of Negative SHA

Description NORTH ELEVATION

Number 4 of 4